



United States Environmental Protection Agency

Recognizing the Best in EPA Science

Scientific and Technological Achievement Awards (STAA)

This Agency-wide competition for the Scientific and Technological Achievement Award (STAA) is among the most prestigious of EPA scientific award programs. The STAA awards promote and recognize scientific and technological achievement by EPA employees. The STAA program began in 1980 and is sponsored by the Office of Research and Development (ORD). EPA's Science Advisory Board (SAB) provides scientific and technological evaluation. While this program is sponsored by ORD and has considerable ORD participation, the competition is Agency-wide.

To be eligible for consideration, the nominated research must be published in a peer-reviewed journal, must initiate or revise a scientific principle or procedure, and must be recognized as a major achievement within its field of study.

Level I Winner: Dr. John L. Stoddard Office of Research and Development

Regional Trends in Aquatic Recovery from Acidification in North America and Europe

Published in *Nature*, October 1999. This is the first, large-scale study on the ecological effects of sulfur reduction policies and regulations in North America and Europe. Dr. John L. Stoddard, an ORD's N001-SRL in Corvallis, Oregon, collaborated with 22 scientists from seven other countries. The research found widespread recovery from acidification across large portions of Europe and limited areas in the United States.

In the most sensitive regions of the U.S. and Canada, recovery has not occurred. Lakes in the upper Midwest, south and central Ontario, and the Adirondack and Catskill mountains of New York have not regained their normal water chemistry and are highly acidic despite decreased rates of acid deposition from the atmosphere.

Dr. Stoddard analyzed regional trends in sulfate, nitrate and base cation concentrations, and acidity from 1980 to 1995 as indicators of acidification for 200 lakes and streams North America and Europe.

The research has been highly praised. After its publication, major articles on this research appeared in numerous newspapers and magazines in the U.S., Canada and Europe.

Level I Winner: Joseph McDonald & Lee Jones Office of Transportation and Air Quality, OAR

Demonstration of Tier 2 Emission Levels for Heavy Light-Duty Trucks

Published in SAE Technical Paper Series, June 2000. Under an Agency program to demonstrate feasibility of the Tier 2 emission standards for sport utility vehicles and light trucks, Joseph McDonald and Lee Jones from EPA's Office of Transportation and Air Quality, developed modified exhaust system components and evaluated the emissions reduction potential for sport utility vehicles and light trucks. The researchers determined that the Tier 2 standards were cost effective and without negative impacts on fuel economy.

The modified exhaust system components formed an integrated emission control system that includes a vehicle calibration system, an engine exhaust system including the fabrication of low-mass thermally insulated components, and an advanced catalyst design.

Results of this research enabled the EPA to establish new standards to reduce hydrocarbon emissions as much as 90 percent. These technological achievements demonstrated emission levels below the 2000 U.S. Federal Tier 2 standards.

Level II Winners:

Jones, Robert B. National Risk Management Research Laboratory
Kohn, Kenneth W. National Risk Management Research Laboratory
Larson, Joseph A. National Health and Environmental Effects Research Laboratory
Lugones, Francisco J. National Exposure Research Laboratory
Olson, Paul H. National Exposure Research Laboratory
Giblin, Timothy M. National Exposure Research Laboratory
Sagheimer, Alexander G. National Exposure Research Laboratory
Snyder, Robert B. Environmental Health and Environmental Effects Research Laboratory
Gustafson, David L. National Exposure Research Laboratory
Flegal, Thomas L. National Exposure Research Laboratory
Gentry, Linda D. National Risk Management Research Laboratory
Giles, Andrew National Health and Environmental Effects Research Laboratory
Gorman, John W. National Health and Environmental Effects Research Laboratory
Gorman, John W. National Health and Environmental Effects Research Laboratory

Gorman, Joseph A. National Risk Management Research Laboratory
Hsieh, Kenneth W. National Risk Management Research Laboratory
Hsu, Cheng National Health and Environmental Effects Research Laboratory
Lugones, Francisco J. National Exposure Research Laboratory
Mannervik, Robert C. National Exposure Research Laboratory
Peters, Robert National Risk Management Research Laboratory
Sagheimer, Alexander G. National Exposure Research Laboratory
Snyder, Robert B. National Exposure Research Laboratory
Gustafson, David L. National Exposure Research Laboratory
Flegal, Thomas L. National Exposure Research Laboratory
Gentry, Linda D. National Risk Management Research Laboratory
Giles, Andrew National Health and Environmental Effects Research Laboratory
Gorman, John W. National Health and Environmental Effects Research Laboratory
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EV 2002 STAA Program Statistics

- 3 Level II awardees
- 28 Level III awardees
- 10 Level IV awardees
- 30 Honorable Mentions

How the STAA Program Works

The 2002 award cycle had ten research categories under which a peer reviewed paper could be nominated:

1. Control Systems and Technology
2. Regulatory Research
3. Health Effects Research and Human Health Risk Assessment
4. Monitoring and Measurement Methods
5. Transport and Fate
6. Review Articles
7. Risk Management and Exposure Estimation
8. Integrated Risk Assessment
9. Social Sciences
10. Environmental Policy

Four levels of awards are available within each research category:

Winners of a Level I award receive \$3,000, a commemorative plaque, a letter of appreciation, and a certificate. Level II winners receive \$2,000, a letter, and a certificate. Level III winners receive \$1,000 and a certificate. Honorable Mention winners receive a certificate. The monetary award is distributed according to the amount of total effort contributed by each author.

Nomination packages are received by National Center for Environmental Research in ORD. After the nomination packages are screened for completeness by NCEER, the packages are forwarded to the EPA's Science Advisory Board (SAB). The SAB convenes a subcommittee to review the nominations. Each year, the subcommittee members are selected based on their expertise in the categories of science and technology addressed by the nominated publications. When necessary, the subcommittee obtains additional reviews from experts to ensure the credibility of the review process. The SAB reviews the nomination packages according to the factors provided in the annual guidelines.

Applications are accepted each August. Go to www.epa.gov/ord for applications and annual guidelines/instructions.